

**FIRE PROTECTION SYSTEM
WINTERIZATION AND PORTABLE
HEATER USE**
**Manual
Document
Page
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**ESHQ
TFC-ESHQ-FP-STD-09, REV A-4
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[Ownership matrix](#)
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1.0 PURPOSE AND SCOPE

(5.1.1, 5.1.2)

This standard provides the requirements for developing a winterization program to ensure fire systems are protected against cold weather conditions and to ensure the safe use of portable heaters.

These requirements apply to all Tank Operations Contractor (TOC) managed facilities, operations, and activities.

2.0 IMPLEMENTATION

This standard is effective on the date shown in the header.

3.0 STANDARD

The facility management responsible for the maintenance of each facility provided with fire protection systems or components shall ensure that a documented winterization program is in place for those facilities.

The portable heater requirements apply to all aspects of portable heater use, as appropriate. Obtain guidance from the fire protection engineer if there are any concerns or questions about the use of portable heaters.

3.1 Documenting and Correcting Deficiencies Resulting from Annual Inspections

Document any winterization program deficiencies and initiate corrective action to repair or resolve the deficient conditions. Maintain winterization program documentation and records in accordance with [TFC-BSM-IRM_DC-C-02](#).

3.2 Prevent Fire Systems from Freezing

Maintain any facility supplied with fire protection systems or components with sufficient heat and/or non-combustible insulation to prevent freezing and damage to the system and components.

- In the case that heat cannot be sufficiently provided to the facility to prevent the system from freezing, a Fire Marshal Permit shall be issued for temporary deactivation, and the system drained and removed from service.
- In a temporary deactivation situation, the facility shall be placed on fire surveillance at a frequency decided on by consultation with the TOC fire protection engineers (FPE).
- The fire surveillance shall be maintained until the system can be returned to service and testing is current.

3.3 Use of Heat Tape and Portable Heaters

1. Heat tape and portable heaters may be used to winterize existing fire protection systems only if appropriately engineered protection measures are not readily available or feasible. If heat tape or portable heaters must be used, the additional requirements below must be addressed.
2. Consult the TOC fire protection engineer (FPE) before using portable heaters.
3. After consulting with the TOC FPE, electric heaters may be used in weather enclosures for personnel comfort or equipment protection without a Fire Marshal Permit.
 - Inside fabric enclosures, heaters shall be continuously attended because the wind can blow enclosure material into the heater.
 - The heater shall be a minimum of 4 feet from any combustibles, or in accordance with manufacturer's instructions, whichever is greater.
4. A Fire Marshal Permit is required prior to the use of any portable fuel-fired heaters within tank farms. The TOC FPE will ensure that the conditions of the proposed use are evaluated by Nuclear Safety prior to issuing the fire permit.]
 - In addition to the requirements below, additional requirements for placement and use of the fuel-fired heaters may be addressed on a case-by-case basis by the Fire Marshal Permit.
5. Managers shall ensure that the heaters are used in accordance with the manufacturer's recommendations, including the following:
 - Maintain 4 feet clearance to combustible furnishings, surfaces, or materials, or in accordance with the manufacturer's instructions, whichever is greater, from
 - Maintain adequate ventilation for fuel-fired heaters to prevent products of combustion build-up and to maintain stable flame quality
 - Use correct/appropriate fuel and refueling practices.
6. Makes and models of portable heaters shall be recognized and listed by an organization concerned with product evaluation (e.g., Underwriter's Laboratories (UL)) or be certified by the American Gas Association (AGA) for the intended application. Portable heaters shall not be modified for any other applications.
7. Fuel for heaters shall be stored and handled in accordance with TFC-ESHQ-FP-STD-03.
8. All liquefied petroleum gas-fired and other fuel-fired heaters shall be permitted by the Hanford Fire Marshal in accordance with TFC-ESHQ-FP-STD-01.
9. Fuel fired heaters shall be located outside a structure and the heat ducted indoors, unless otherwise permitted by the Hanford Fire Marshal.

10. Liquefied petroleum gas-fired heaters shall not be used indoors, except as permitted by the Hanford Fire Marshal. Examples where heaters may be needed are:
- In buildings undergoing construction, repairs, or modifications
 - As temporary heat in non-combustible industrial occupancies
 - In other buildings for temporary, emergency heating purposes when necessary to prevent damage to the building, its systems, or its contents. These heaters shall be continuously attended.
11. If heat tape is to be used as the primary heat source to prevent existing fire suppression system piping from freezing:
- All new and/or replacement heat tape installed must be UL listed for use on fire protection systems as well as the piping material being protected.
 - The heat tape must be self-regulating.
 - Non-combustible insulation should be used over the pipe and heat tape.
 - The fire system pipe temperature shall be monitored by a system that includes a mechanism to transmit a trouble alarm to the Hanford Fire Department if the pipe temperature drops below 40°F.
 - Heat tape shall not be used for new system designs.

NOTE: An exception to the rule above is that heat tape, in compliance with the other requirements of this standard, may be used to protect fire system risers in unheated trailer crawl spaces from freezing.

- All heat tape installations shall be approved by the TOC Fire Protection Engineer/Hanford Fire Marshal.

4.0 DEFINITIONS

No terms or phrases unique to this standard are used.

5.0 SOURCES

5.1 Requirements

1. DOE O 420.1B, "Facility Safety."
2. ENS-ENG-IP-05, R0, "ORP Fire Protection Program."

5.2 References

1. [TFC-ESHQ-FP-STD-01](#), "Fire Marshal Permits, Combustible Controls, and Construction Occupancy Requirements."
2. [TFC-ESHQ-FP-STD-03](#), "Flammable/Combustible Liquids."